

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application No. : 10/514,412  
Confirmation No. : 4371  
Applicant : Da Silvo Neto et al.  
Filed : Nov. 15, 2004  
Title : Variable field device for process automation  
TC/A.U. : 2112  
Examiner : H. Singh  
Docket No. : DASI3001/FJD  
Customer No. : 23364



**BRIEF ON APPEAL TRANSMITTAL**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is a Brief on Appeal in the above-identified application.

1. ☐ An Oral Hearing is requested.
2. ☐ An Oral Hearing is requested on \_\_\_\_\_.
3. ☐ An extension of time for filing the Brief on Appeal  
    ☐ is hereby requested.  
    ☐ was requested on \_\_\_\_\_.
4. The fee is calculated as follows:

|                                        |        |
|----------------------------------------|--------|
| Filing Brief on Appeal                 | \$ 540 |
| Request for Oral Hearing               | \$     |
| Request for an _____ Extension of Time | \$     |
5. ☐ No fee required.
6. ☒ A check in the amount of \$ 540 is enclosed.
7. ☐ Please charge Deposit Acct. No. 02-0200 in the amount of \$\_\_\_\_\_.
8. ☒ The Commissioner is hereby authorized to charge underpayment of any fees during the pendency of this application or credit any overpayment to Deposit Account No. 02-0200.

Respectfully submitted,

  
Felix J. D'Ambrosio  
Reg. No. 25,721

Date: December 8, 2008

**Customer No. 23364**  
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**PATENT**

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**BRIEF ON APPEAL**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA. 22202-3514

Sir:

**INTRODUCTORY COMMENTS**

Pursuant to the provisions of 37 CFR 41.37, submitted herewith is Applicant/Appellant's Brief on Appeal along with the required fee.

Any additional fees necessary for this appeal may be charged to the undersigned's Deposit Account No. 02-0200.

**REAL PARTY IN INTEREST**

(37 CFR 41.37(c)(1)(i))

The real party in interest is Applicant/Appellant's assignee Endress + Hauser Flowtec AG. The assignment was recorded on June 28, 2005 at Reel 016428 and Frame 0413.

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**RELATED APPEALS AND INTERFERENCES**

(37 CFR 41.37(c)(1)(ii))

There are no related appeals or interferences with respect to the invention defined in this application.

**STATUS OF CLAIMS**

(37 CFR 41.37(c)(1)(iii))

Claims 10 - 19 are pending in this application.

Claims 10 - 19 have been finally rejected.

Claims 1 - 9 as originally filed have been cancelled.

**STATUS OF AMENDMENTS**

(37 CFR 41.37(c)(1)(iv))

No amendment was filed after issuance of the Office Action of July 8, 2008.

**SUMMARY OF CLAIMED SUBJECT MATTER**

(37 CFR 41.37 (c)(1)(v))

(References are to page and line of the specification)

The invention on this appeal relates to a variable field device for process automation (pg. 1, lines 1 and 2). The field device is normally composed of various hardware components, which determined the functionality of the field device. Different field devices have different hardware components (pg. 2, lines 25 - 32). This multiplicity of components means a considerable expense in manufacture, since a multitude of hardware components has to be available (pg. 3, lines 3- 5).

The essential idea of the invention is that various modules of the field device are in the form of reprogrammable chips. (Pg. 4, lines 1 - 5). These chips in the form of units are each unique. See, for example, Fig. 2, which shows a sensor S1 which includes a measurement transducer MT, which is connected with a sensor unit SU. The sensor unit SU is followed by a digital signal processor DSP. The digital signal processor DSP is connected with a system

processor MP. The system processor MP is connected via a communications unit CU with a data bus DB. (Pg. 5, lines 10 - 16).

These units form the important aspect of the four (4) modules which each sensor has. As shown in Fig. 3 and as defined in claim 1, the field device has a sensor module SM, a signal processing module SPM, a processor module PM and a communications module CM. According to the invention, the signal processing module and the processor module PM are provided in the form of a reprogrammable logic device LD (pg. 6, lines 19 - 26). Both hardware and software are configured on the reprogrammable logic device LD in a desired fashion thereby matching the particular demands of the application of the sensor module SM (pg. 7, lines 11 - 16). By using a reconfigurable logic device LD, the parts multiplicity burdening the manufacture of a field device is considerably reduced (pg. 8, lines 4 - 6). With the aid of reconfigurable logic devices, it is possible to configure hardware components, and, consequently, to change the functionality and behavior of the device easily. The hardware components can, in this way, be adapted to various tasks and functionalities (pg. 8, lines 13 - 17).

#### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

(37 CFR 41.37(c)(1)(Vii))

There is a single rejection, namely, of claims 10 - 19 as unpatentable under 35 USC 103(a) over Gillen in view of Stinus et al.

#### **ARGUMENT**

(37 CFR 41.37 (c)(1)(vi))

In independent claim 10, the various components are defined as modules. The examiner asserts that Gillen discloses all the structure claimed "except for specifically teaching that at system start, both hardware and software are configured on said

reprogrammable logic device LD in a desired fashion thereby matching the particular demands of the application of said sensor module SM." This, according to the examiner, is taught by Stinus.

First of all, Gillen does not disclose a modular design. It does disclose modular components, but not all the components are modular as is the case in claim 10. There is no mention of this distinction in the examiner's commentary. As to Stinus, it does not disclose that the SPM and the PM are provided in the form of a reprogrammable logic device LD, nor does Stinus provide the function noted in claim 10, i.e., the reconfiguration of both hardware and software at start. The passages of Stinus referred to by the examiner to support his contention, do not lend the support that the examiner supposes.


In this case, the references are disclose devices in the same field as that of the invention, but that is not enough to render the claims unpatentable. The components claimed must be taught and related as the components in the claims are related. In addition, the result achieved by the claimed device must also be achieved by the combined references. It is respectfully submitted, that this is not the case with Gillen and Stinus.

## CONCLUSION

In view of the above, the Board is urged to reverse the examiner in his noted rejection and find the present invention as defined in claims 10 - 19 allowable over Gillen and Stinus, and to remand the application back to the examiner with instructions to find claims 10 - 19 allowable.

Respectfully submitted,  
BACON & THOMAS, PLLC

Date: December 8, 2008



Felix J. D'Ambrosio  
Reg. No. 25,721

APPENDIX OF CLAIMS  
(37 CFR 41.37 (c)(1)(viii))

**DOUBLE SPACE WITH NO MODIFIERS**

10. A variable field device for process automation, including:  
a superordinated control-evaluation unit;  
a sensor module SM for measured-value detection of a process variable in an application;  
a signal processing module SPM connected to said sensor module SM;  
a communication module CU; and  
a processor module PM, which is connected with said communications module CU for connection of the field device with said superordinated control-evaluation unit, wherein:  
said signal processing module SPM and said processor module PM are provided in the form of a reprogrammable logic device LD; and  
at system start, both hardware and software are configured on said reprogrammable logic device LD in a desired fashion thereby matching the particular demands of the application of said sensor module SM.

11. The variable field device as claimed in claim 10, wherein:  
said reprogrammable logic device LD includes parts of said communication module CU.

12. The variable field device as claimed in claim 10, wherein:  
said reprogrammable logic device includes parts of said sensor module SM.
13. The variable field device as claimed in claim 10, wherein:  
said reprogrammable logic device LD includes all digitally working components  
of said sensor module SM.
14. The variable field device as claimed in claim 10, wherein:  
said reprogrammable logic device LD includes at least one embedded processor  
EP, one memory M and one logic L.
15. The variable field device as claimed in claim 10, wherein:  
said reprogrammable logic device LD serves, in operation, as an SOPC-system  
(system-on-a-programmable-chip).
16. The variable field device as claimed in claim 10, wherein:  
said communications module CU has a data bus interface, which comprise one  
of: Profibus®, Foundation Fieldbus®, and CAN®-Bus.
17. The variable field device as claimed in claim 10, wherein:  
said communications module CU has a data bus interface which comprises one  
of: one or more analog inputs/outputs I/O's, which are one of: frequency output, and

pulse output.

18. The variable field device as claimed in claim 10, wherein:  
a function block is loaded into said reprogrammable logic device LD.

19. The variable field device as claimed in claim 18, wherein:  
said function block is a Flexible Function Block of one of: Foundation Fieldbus;  
and a Profibus function block.



EVIDENCE APPENDIX

There is no evidence being relied upon which was submitted pursuant to 37 CFR 1.130, 1.131 or 1.132.

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RELATED PROCEEDINGS APPENDIX

There is no related proceeding being relied upon.